YASKAWA AC Drive 1000-Series Option

24 V Power Supply
Installation Manual

Type: PS-A10LB, PS-A10HB

To properly use the product, read this manual thoroughly and retain for easy reference, inspection, and maintenance. Ensure the end user receives this manual.

安川インバータ 1000シリーズオプション

24 V制御電源ユニット
取扱説明書

形式：PS-A10LB, PS-A10HB

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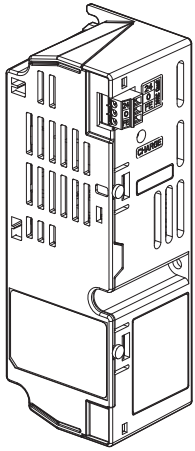

MANUAL NO. TOBP C730600 55A

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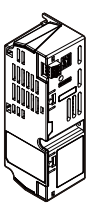
1 Preface and Safety

Yaskawa manufactures products used as components in a wide variety of industrial systems and equipment. The selection and application of Yaskawa products remain the responsibility of the equipment manufacturer or end user. Yaskawa accepts no responsibility for the way its products are incorporated into the final system design. Under no circumstances should any Yaskawa product be incorporated into any product or design as the exclusive or sole safety control. Without exception, all controls should be designed to detect faults dynamically and fail safely under all circumstances. All systems or equipment designed to incorporate a product manufactured by Yaskawa must be supplied to the end user with appropriate warnings and instructions as to the safe use and operation of that part. Any warnings provided by Yaskawa must be promptly provided to the end user. Yaskawa offers an express warranty only as to the quality of its products in conforming to standards and specifications published in the Yaskawa manual. NO OTHER WARRANTY, EXPRESS OR IMPLIED, IS OFFERED. Yaskawa assumes no liability for any personal injury, property damage, losses, or claims arising from misapplication of its products.

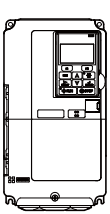
◆ Applicable Documentation

The following manuals are available for the option:

24 V Power Supply Option

	**Yaskawa AC Drive 1000-Series Option 24 V Power Supply Installation Manual Manual No: TOBPC73060055**	Read this manual first. The installation manual is packaged with the option and contains information required to install the option and set up related drive parameters.

Yaskawa Drive

	**Yaskawa AC Drive 1000-Series Quick Start Guide**	The drive manuals cover basic installation, wiring, operation procedures, functions, troubleshooting, and maintenance information. The manuals also include important information about parameter settings and drive tuning. Access these sites to obtain Yaskawa instruction manuals: U.S.: http://www.yaskawa.com Europe: http://www.yaskawa.eu.com Japan: http://www.e-mechatronics.com For questions, contact your local Yaskawa sales office or the nearest Yaskawa representative.
	Yaskawa AC Drive 1000-Series Technical Manual	

◆ Terms

Note: Indicates supplemental information that is not related to safety messages

Drive: Yaskawa AC Drive 1000-Series

Option: Yaskawa AC Drive 1000-Series Option 24 Vdc Power Supply

◆ Registered Trademarks

Trademarks are the property of their respective owners.

◆ Supplemental Safety Information

Read and understand this manual before installing, operating, or servicing this option. Install the option according to this manual and local codes.

The following conventions indicate safety messages in this manual. Failure to heed these messages could cause fatal injury or damage products and related equipment and systems.

⚠ DANGER

Indicates a hazardous situation, which, if not avoided, will result in death or serious injury.

⚠ WARNING

Indicates a hazardous situation, which, if not avoided, could result in death or serious injury.

⚠ CAUTION

Indicates a hazardous situation, which, if not avoided, could result in minor or moderate injury.

NOTICE

Indicates an equipment damage message.

■ General Safety

General Precautions
• The diagrams in this book may include options and drives without covers or safety shields to illustrate details. Be sure to reinstall covers or shields before operating any devices. Use the option according to the instructions described in this manual. • Any illustrations, photographs, or examples used in this manual are provided as examples only and may not apply to all products to which this manual is applicable. • The products and specifications described in this manual or the content and presentation of the manual may be changed without notice to improve the product and/or the manual. • When ordering new copies of the manual, contact a Yaskawa representative or the nearest Yaskawa sales office and provide the manual number shown on the front cover.

⚠ DANGER

Heed the safety messages in this manual.

Failure to comply will result in death or serious injury.

The operating company is responsible for any injuries or equipment damage resulting from failure to heed the warnings in this manual.

NOTICE

Do not modify the drive or option circuitry.

Failure to comply could result in damage to the drive or option and will void warranty.

Yaskawa is not responsible for any modification of the product made by the user. This product must not be modified.

Do not expose the drive or option to halogen group disinfectants.

Failure to comply may cause damage to the electrical components in the drive or option.

Do not pack the drive in wooden materials that have been fumigated or sterilized.

Do not sterilize the entire package after the product is packed.

■ Option Label Warnings

Warning information is displayed on the option as shown in the ***Figure 1***. Follow all warnings and safety instructions when using the product.

When using the drive in an area that may require displaying warning information in Japanese and English, a warning label is provided with the option. This label can be placed over the English and French warnings on the front of the option

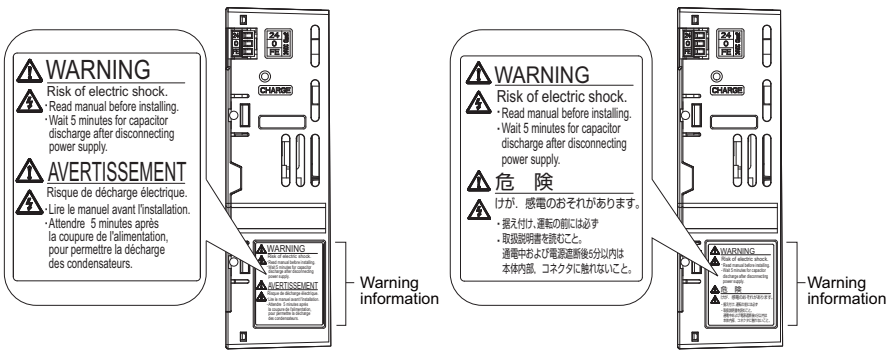


Figure 1 Warning Labels

2 Product Overview

◆ About this Product

The 24 V Power Supply option maintains drive control circuit power in the event of a main power outage. As long as the control circuit has power, network communications and I/O data remain operational. The option provides external power to the control circuit only, and does not provide power to the main circuit of the drive.

It is possible to read fault and parameter data in the drive via the operator or network communications when the drive switches to the option as a back-up power supply.

Note: **1.** Parameter settings cannot be changed without drive main circuit power regardless of whether the control circuit has enough power to operate.
2. When connecting the 24 V Power Supply Unit, set the drive Undervoltage Detection Level (Uv) to its default value.

◆ Applicable Models

The 24 V Power Supply Option can be used with the drive models in ***Table 1***.

Table 1 Applicable Models

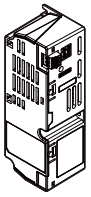
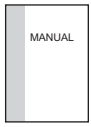
Drive Series	Drive Voltage Class	Option Model
A1000	200 V Class	PS-A10LB
	400 V Class	PS-A10HB
	600 V Class	
L1000A	200 V Class	PS-A10LB
	400 V Class	PS-A10HB
T1000A	200 V Class	PS-A10LB
	400 V Class	PS-A10HB
Z1000	200 V Class	PS-A10LB
	400 V Class	PS-A10HB

3 Receiving

Please perform the following tasks upon receiving the option:

- Inspect the option for damage. Contact the shipper immediately if the option appears damaged upon receipt.
- Verify receipt of the correct model by checking the model number printed on the option nameplate. (Refer to ***Figure 3*** on page ***11*** for more information)
- Contact your supplier if you have received the wrong model or the option does not function properly.

◆ Option Package Contents

Description:	Option Unit	Warning Label <1>	Screws (M4)	Tapping Screw (M4) <2>	Installation Manual
–					
Quantity:	1	1	3	1	1

<1> The warning label packaged with the option must be affixed to the option to maintain UL listing. ***Refer to Option Label Warnings on page 7*** for instructions on label placement.

<2> Only the Z1000 drive requires a tapping screw for installation. For options designed for use with the Z1000 drives, all packages include tapping screws. Packages including options for other drives, however, might or might not include tapping screws.

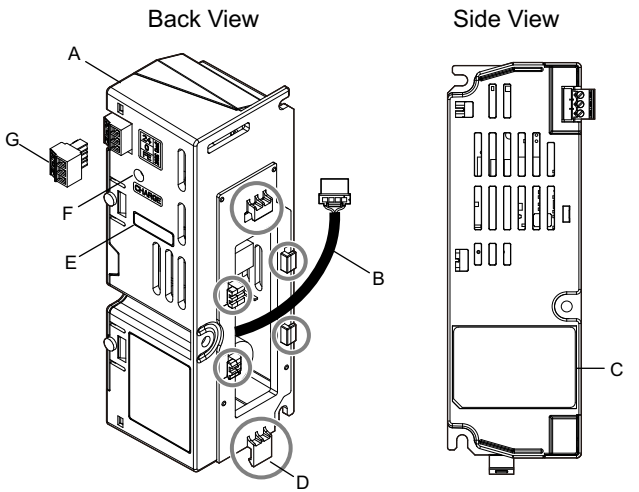
◆ Tools Required for Installation

- A Phillips screwdriver (M4 metric / #1, #2 U.S. standard size) is required to install the option.
- A straight-edge screwdriver (blade depth: 0.4 mm, width: 2.5 mm) is required to install the drive and wire the option terminal block.

Note: Tools required to prepare option cables for wiring are not listed in this manual.

4 Option Components

◆ 24 V Power Supply Option



A – Option Cover
B – Connector cable
C – Nameplate
Refer to *Figure 3* for details.
D – Connector tabs (6)
E – Model number
F – Charge LED
G – Terminal Block TB1
(24 Vdc power supply input)

Figure 2 24 Vdc Power Supply Option Components

◆ Option Nameplate

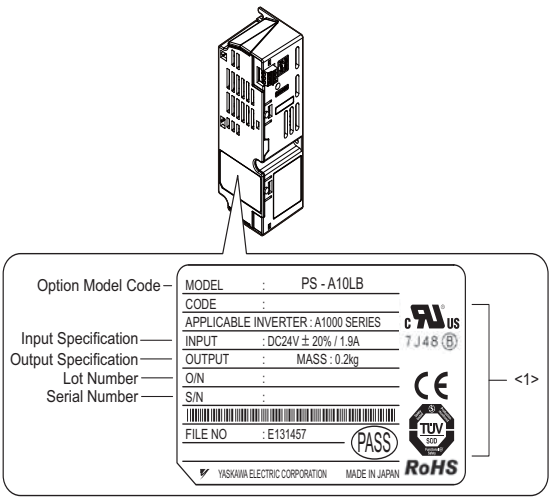
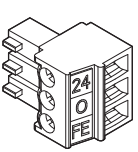


Figure 3 PS-A10LB Nameplate Example

<1> Certification pending. Contact your Yaskawa representative or the nearest Yaskawa sales office for details.

◆ Terminal Block TB1



Refer to ***Table 2*** for details on TB1 terminal functions.

■ Terminal Functions

Table 2 Option Terminal Functions

Terminal	Function
24	+24 Vdc Input
0	0 V
FE	Ground

5 Installation and Uninstallation Procedure

◆ Section Safety

⚠ DANGER

Electric Shock Hazard

Do not connect or disconnect wiring while the power is on.

Failure to comply will result in death or serious injury.

Disconnect all power to the drive and wait at least the amount of time specified on the drive front cover safety label. After all indicators are off, measure the DC bus voltage to confirm safe level, and check for unsafe voltages before servicing. The internal capacitor remains charged after the power supply is turned off.

⚠ WARNING

Electrical Shock Hazard

Do not remove the front covers of the drive while the power is on.

Failure to comply could result in death or serious injury.

The diagrams in this section may include options and drives without covers or safety shields to show details. Be sure to reinstall covers or shields before operating any devices. Use the option according to the instructions described in this manual.

Do not allow unqualified personnel to use equipment.

Failure to comply could result in death or serious injury.

Maintenance, inspection, and replacement of parts must be performed only by authorized personnel familiar with installation, adjustment, and maintenance of this product.

Do not touch circuit boards while the power to the drive is on.

Failure to comply could result in death or serious injury.

⚠ WARNING

Do not use damaged wires, stress the wiring, or damage the wire insulation.

Failure to comply could result in death or serious injury.

Fire Hazard

Tighten all terminal screws to the specified tightening torque.

Loose electrical connections could result in death or serious injury by fire due to overheating of electrical connections.

NOTICE

Damage to Equipment

Observe proper electrostatic discharge (ESD) procedures when handling the option, drive, and circuit boards.

Failure to comply may result in ESD damage to circuitry.

Never shut the power off while the drive is running or outputting voltage.

Failure to comply may cause the application to operate incorrectly or damage the drive.

Do not operate damaged equipment.

Failure to comply may cause further damage to the equipment.

Do not connect or operate any equipment with visible damage or missing parts.

Tighten all terminal screws to the specified tightening torque.

Failure to comply could result in damage to the terminal block.

Do not use unshielded cable for control wiring.

Failure to comply may cause electrical interference resulting in poor system performance.

Use shielded twisted-pair wires and ground the shield to the ground terminal of the drive.

NOTICE

Properly connect all pins and connectors.

Failure to comply may prevent proper operation and possibly damage equipment.

Check wiring to ensure that all connections are correct after installing the option and connecting any other devices.

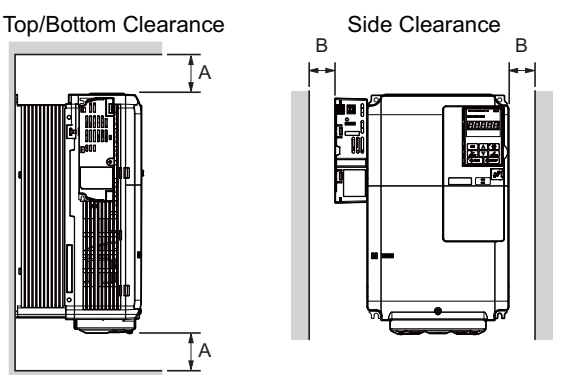
Failure to comply may result in damage to the option.

◆ Prior to Installing the Option

Prior to installing the option, wire the drive, make the necessary connections to the drive terminals, and verify that the drive functions normally without the option installed. Refer to the Quick Start Guide packaged with the drive for information on wiring and connecting the drive.

■ Single Drive Installation

Figure 4 shows the installation distance required to maintain sufficient space for airflow and wiring.



A – 120 mm minimum **B – 30 mm minimum**

Figure 4 Correct Installation Spacing

Note: IP20/NEMA Type 1 Enclosure and IP00/Open-Chassis models require the same amount of space above and below the drive for installation.

■ Dimensions

The option is 163 mm (6.4 in.) tall and adds 50 mm (2.0 in.) to the width of the drive when installed.

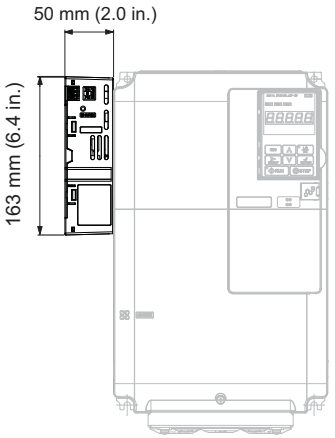


Figure 5 Dimensions

■ UL and CE Compliance

Note: Certification pending. Contact your Yaskawa representative or the nearest Yaskawa sales office for details.

Installation Area

For compliance with UL and CE standards, the 24 V Power Supply Option should be placed within the enclosure.

This product must be used in areas with an environment rating no greater than pollution degree 2 according to UL standards.

Note: 600 V class drives (models CIMR-A□5□□□□□□) are not compliant with European Standards.

External Power Supply

Use a Class 2 power supply as defined by UL standards for the customer-supplied power supply connection to TB1.

◆ Option Installation Methods

There are three different installation methods for the option based on drive model. Find the drive model number on the drive nameplate and refer to ***Table 3*** to determine the proper option installation method for your drive.

Table 3 Model-Specific Installation Methods

Drive Model	Installation Method	Page
CIMR-A□2A0004 to 2A0081, 4A0002 to 4A0044 5A0003 to 5A0032 CIMR-L□2A0018 to 2A0075, 4A0009 to 4A0039 CIMR-T□2A0004 to 2A0081, 4A0002 to 4A0044 CIMR-Z□2A0011 to 2A0114, 4A0005 to 4A0096	A	*17*
CIMR-A□2A0110 to 2A0415, 4A0058 to 4A0414 5A0041 to 5A0099 CIMR-L□2A0085 to 2A0415, 4A0045 and above CIMR-T□2A0110 to 2A0415, 4A0058 to 4A0362 *<1>* CIMR-Z□2A0143 to 2A0396, 4A0124 to 4A0361	B	*20*
CIMR-A□4A0515 to 4A1200 CIMR-Z□4A0414 and 4A0590	C	*24*

<1> Drive models CIMR-T□2A0250 to 2A0415, and 4A0208 to 4A0415 are under development.

■ Installation Method A

DANGER! *Electrical Shock Hazard. Disconnect all power to the drive and wait at least the amount of time specified on the drive front cover safety label. After all indicators are off, measure the DC bus voltage to confirm safe level, and check for unsafe voltages before servicing. The internal capacitor remains charged after the power supply is turned off.*

NOTICE: *Damage to Equipment. Observe proper electrostatic discharge procedures (ESD) when handling the option, drive, and circuit boards. Failure to comply may result in ESD damage to circuitry.*

1. Shut off power to the drive, wait the appropriate amount of time for voltage to dissipate, then remove the connector cover by pushing on the connector tab and sliding the cover towards the top of the drive as indicated by the arrow in ***Figure 6***.

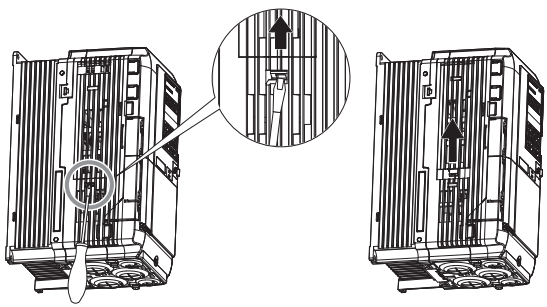


Figure 6 Remove the Connector Cover

2. Pull the loose end of the connection cable out of the option.

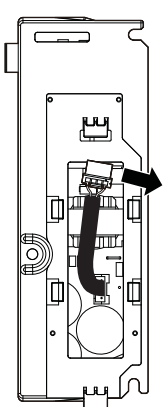


Figure 7 Pull Out the Connection Cable

3. Firmly plug the end of the connection cable into the CN19 connection port on the drive.

NOTICE: *Make sure the connector is facing in the proper direction when plugging it into the drive. An improper connection can damage the connector and the drive.*

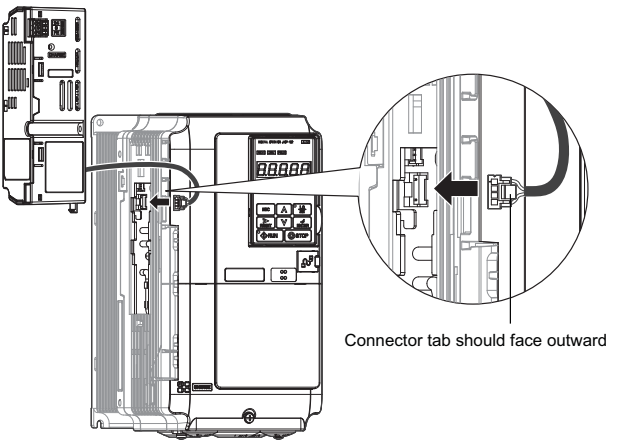


Figure 8 Plug the Connection Cable into the Drive

4. Align the connector tabs on the option with the insertion tabs on the drive as shown in ***Figure 9***.

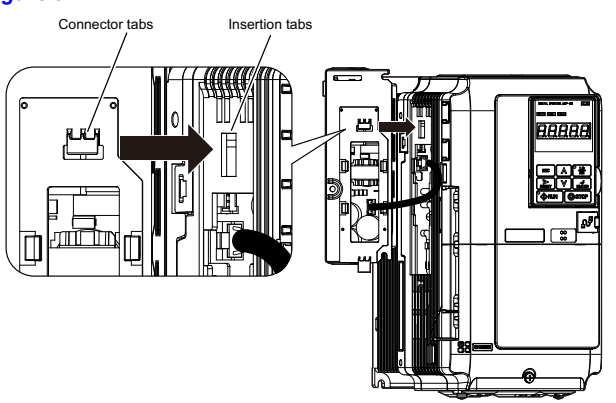
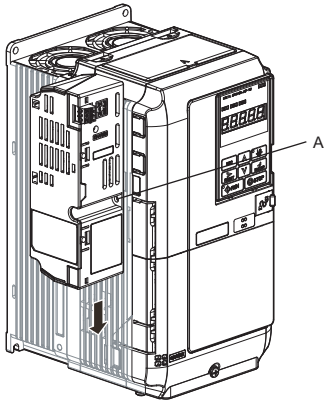


Figure 9 Align the Option and the Drive

Note: Take proper precautions when connecting the option so the option will easily fit onto the drive. Make sure the connector cable is not pinched between the option and the drive.

5. Slide the option downward as indicated in ***Figure 10*** to lock it into place on the drive.
For Z1000 drives, use the tapping screw included in the package to attach the option unit.



A - Use the tapping screw to attach the option unit

Figure 10 Slide the Option onto the Drive

6. Skip to ***Option Wiring on page 31***.

■ Installation Method B

DANGER! *Electrical Shock Hazard. Disconnect all power to the drive and wait at least the amount of time specified on the drive front cover safety label. After all indicators are off, measure the DC bus voltage to confirm safe level, and check for unsafe voltages before servicing. The internal capacitor remains charged after the power supply is turned off.*

NOTICE: *Damage to Equipment. Observe proper electrostatic discharge procedures (ESD) when handling the option, drive, and circuit boards. Failure to comply may result in ESD damage to circuitry.*

1. Shut off power to the drive, wait the appropriate amount of time for voltage to dissipate, then use a Phillips screwdriver (M4) to remove the screw holding the connector cover in place.

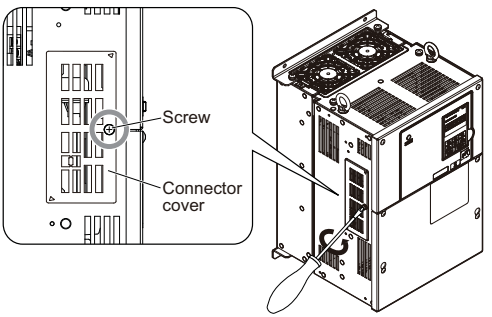


Figure 11 Remove the Connector Cover Screw

2. Slide the connector cover as shown in ***Figure 12***.

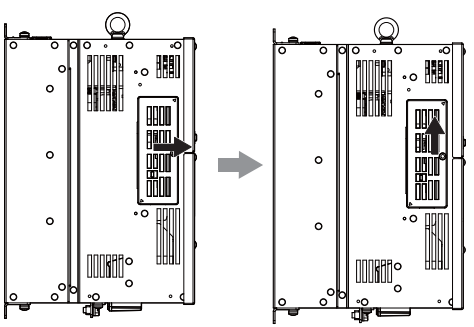


Figure 12 Slide the Connector Cover

3. Insert the blade of a straight-edge screwdriver into the opening shown in ***Figure 13***.
Pull the connector cover in the direction indicated by the arrow and remove it from the drive.

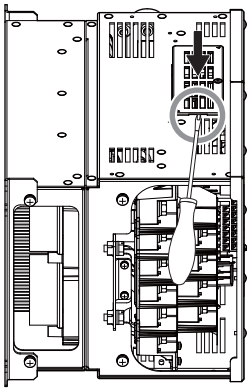


Figure 13 Remove the Connector Cover

4. Pull the loose end of the connection cable out of the option.

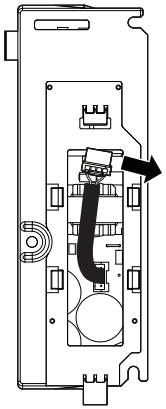


Figure 14 Pull Out the Connection Cable

5. Firmly plug the end of the connection cable into the CN19 connection port on the drive.

NOTICE: *Make sure the connector is facing in the proper direction when plugging it into the drive. An improper connection can damage the connector and the drive.*

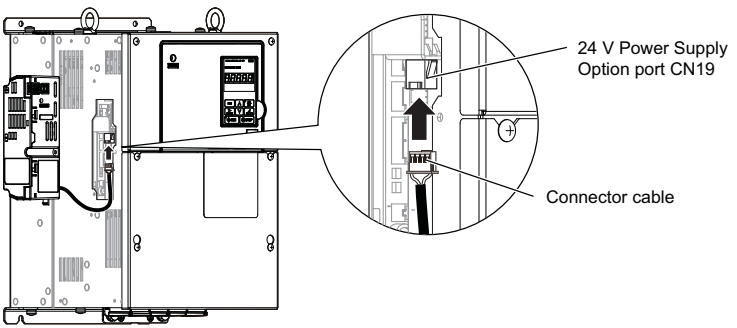


Figure 15 Plug in the Connector (CIMR-A□2A0110)

6. Align the connector tabs on the option with the insertion tabs on the drive as shown in ***Figure 16***.

Note: Take proper precautions when connecting the option so the option will easily fit onto the drive. Make sure the connector cable is not pinched between the option and the drive.

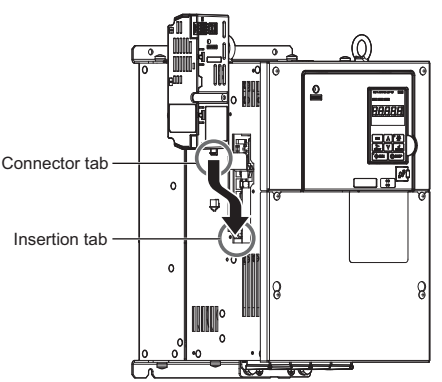


Figure 16 Tab Locations

7. Use a Phillips screwdriver (M4) and the screws included in the option package to fasten the option to the drive in the three locations shown in ***Figure 17***.

NOTICE: *Use only the screws packaged with the option; other screws may damage drive components.*

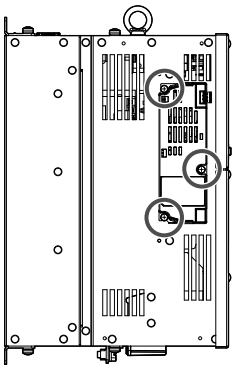


Figure 17 Location of Screws

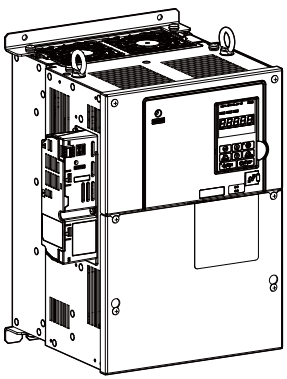


Figure 18 Option Properly Installed

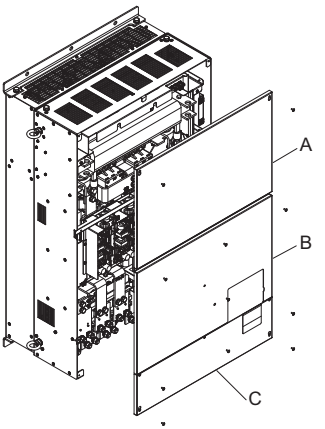
8. Skip to ***Option Wiring on page 31***.

■ Installation Method C

DANGER! *Electrical Shock Hazard. Disconnect all power to the drive and wait at least the amount of time* specified on the drive front cover safety label. After all indicators are off, measure the DC bus voltage to confirm safe level, and check for unsafe voltages before servicing. The internal capacitor remains charged after the power supply is turned off.

NOTICE: *Damage to Equipment. Observe proper electrostatic discharge procedures (ESD) when handling the option, drive, and circuit boards. Failure to comply may result in ESD damage to circuitry.*

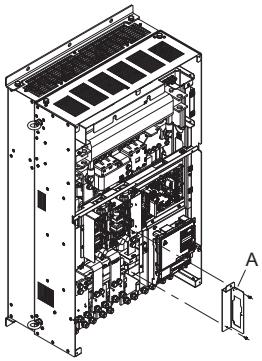
1. Shut off power to the drive, wait the appropriate amount of time for voltage to dissipate, then use a Phillips screwdriver (M4) to remove the drive covers.



A – Front cover 1
B – Front cover 2
C – Terminal Cover

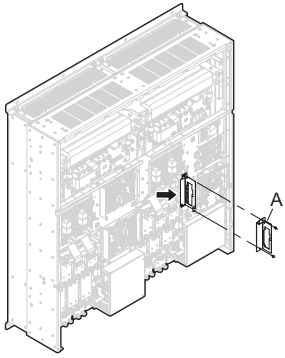
Figure 19 Remove the Covers

2. Remove the bracket used to hold the 24 V power supply unit in place.



A – Bracket for 24 V power supply unit

Figure 20 Removing the bracket (CIMR-A□4A0515, 4A0675)



A – Bracket for 24 V power supply unit

Figure 21 Removing the bracket (CIMR-A□4A0930, 4A1200)

3. Pull the loose end of the connection cable out of the option.

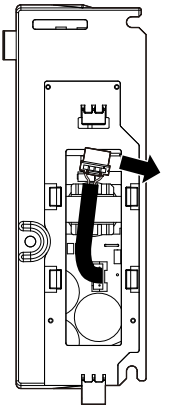


Figure 22 Pull Out the Connection Cable

4. As shown in ***Figure 23***, the cable and connector should pass through the bracket.

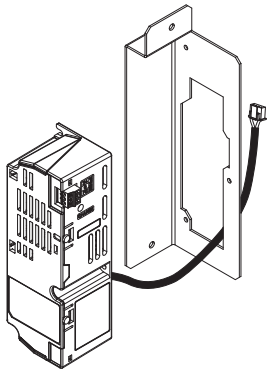
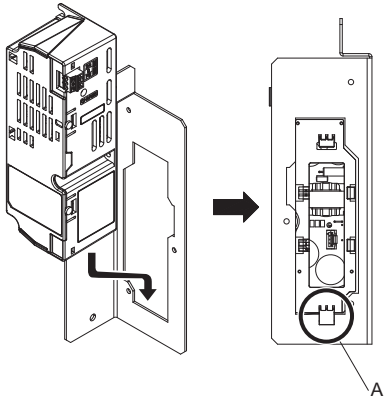


Figure 23 Pass the cable and connector through the bracket

5. Connect the option unit to the bracket so that the connector tabs on the unit catch and hold it in place.



A – Connector tabs to catch the bracket

Figure 24 Connecting the Option Unit to the Bracket

6. Use a Phillips screwdriver (M4) and the screws included in the option package to fasten the option to the bracket in the three locations shown in ***Figure 25***.

NOTICE: *Use only the screws packaged with the option; other screws may damage drive components.*

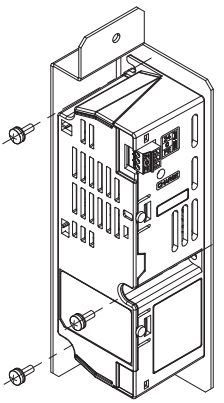


Figure 25 Securing the Option Unit to the Bracket

7. Firmly plug the end of the connection cable into the CN19 connection port on the drive.

NOTICE: *Make sure the connector is facing in the proper direction when plugging it into the drive. An improper connection can damage the connector and the drive.*

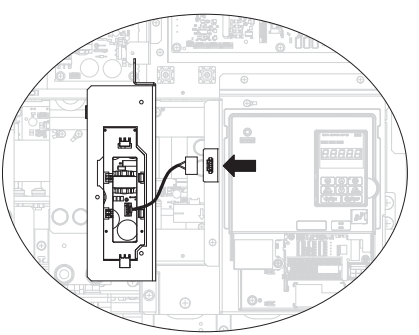
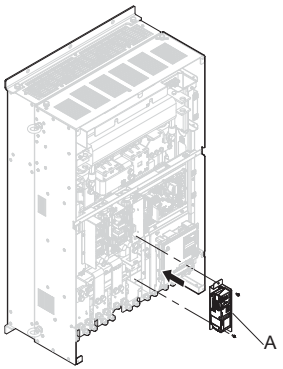


Figure 26 Plugging the connector

8. With the option unit now affixed to the bracket, reinstall the bracket back in its originally location.

Note: Take proper precautions when connecting the option so the option will easily fit onto the drive. Make sure the connector cable is not pinched between the option and the drive.



A – Option unit affixed to the bracket

Figure 27 Installing the option unit

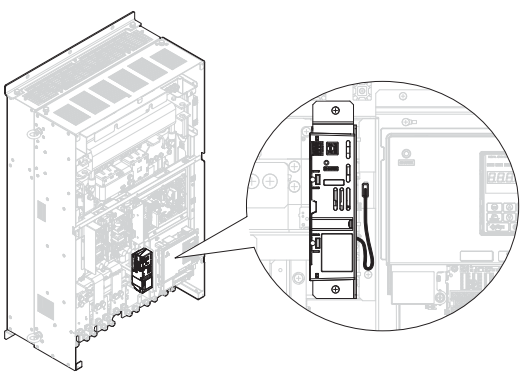
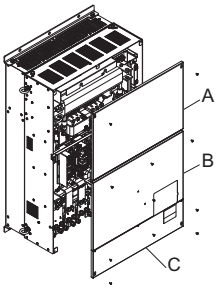


Figure 28 Option Properly Installed

9. Skip to ***Option Wiring on page 31***. After wiring the terminal TB1, reinstall the drive covers to their original locations.



A – Front Cover 1
B – Front Cover 2
C – Terminal Cover

Figure 29 Reinstall the covers to the drive

◆ Option Wiring

1. Select an external power supply.
When the option is first switched on, two times the normal current will flow through the option for approximately 0.5 seconds. The option requires at least 3 A to function properly.

WARNING! *Electrical Shock Hazard. Use a battery or a double-reinforced UL Class 2 power supply to provide power to the option. Using a different type of power supply may result in death or serious injury by electrical shock or fire.*

2. Wire the Terminal Block TB1.
Wire the external power supply to terminal block TB1 on the option.
Use a flat-blade screwdriver to loosen the screws on the 24 V power supply plug, connect wiring to the 24 V, 0, and FE terminals as shown in ***Figure 30***, then tighten the terminal screws to hold wiring in place.
Refer to Wire Gauges and Tightening Torques on page 32 to confirm that the proper tightening torque is applied to each terminal. Take particular precaution to ensure that each wire is properly connected and wire insulation is not accidentally pinched into electrical terminals.

NOTICE: *Be sure to properly connect an external 24 Vdc power source to the power supply plug.* ***Refer to Option Specifications on page 37*** *for details.* *Improper wiring practices could damage the option due to incorrect terminal connections.*

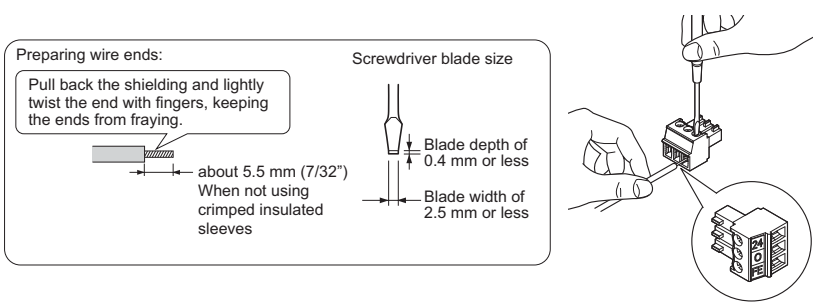

Preparing wire ends:
Pull back the shielding and lightly twist the end with fingers, keeping the ends from fraying.
about 5.5 mm (7/32")
When not using crimped insulated sleeves
Screwdriver blade size
Blade depth of 0.4 mm or less
Blade width of 2.5 mm or less
24
0
FE

Figure 30 Wire the 24 V Power Supply Plug

WARNING! *Fire Hazard. Tighten terminal screws to the specified tightening torque. Loose electrical connections could result in death or serious injury by fire due to overheating. Tightening screws beyond the specified tightening torque may cause erroneous operation, damage the terminal block, or cause a fire.*

NOTICE: *Heat shrink tubing or electrical tape may be required to ensure that cable shielding does not contact other wiring. Insufficient insulation may cause a short circuit and damage the option or drive.*

■ Connection Diagram

Figure 31 illustrates the 24 Vdc Power Supply Option and drive connections.

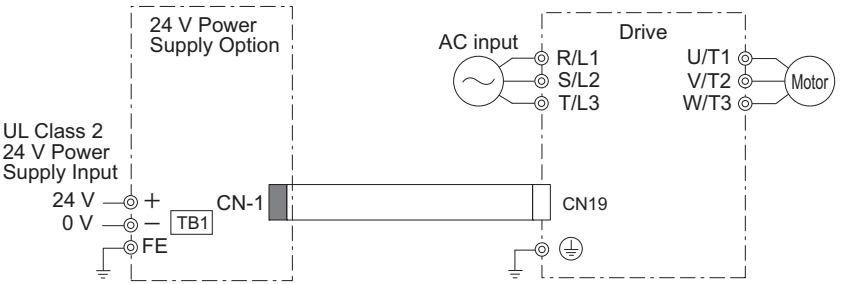


Figure 31 Connection Diagram for Drive and Option

Note: 24 Vdc external power supply input is supplied by the customer.

■ Wire Gauges and Tightening Torques

Table 4 Wire Gauges and Tightening Torques

Terminal Number	Screw Size	Tightening Torque N·m (in·lb)	Bare Cable		Crimp Terminals		Wire Type
			Applicable Gauges mm^2	Recomm. Gauges mm^2	Applicable Gauges mm^2	Recomm. Gauges mm^2	
24, 0, FE	M2	0.22 to 0.2 (1.95 to 2.21)	Standard wire: 0.25 to 1.0 (24 to 17 AWG) Single line: 0.25 to 1.5 (24 to 16 AWG)	0.75 (18 AWG)	0.25 to 0.5 (24 to 20 AWG)	0.5 (20 AWG)	Shielded cable, etc.

◆ Uninstalling the Option

There are three different Uninstallation methods for the option based on drive model. Find the drive model number on the drive nameplate and refer to *Table 5* to determine the proper option installation method for your drive.

Table 5 Uninstallation Method

Drive Model	Uninstallation Method
CIMR-A□2A0004 to 2A0081, 4A0002 to 4A0044 5A0003 to 5A0032 CIMR-L□2A0018 to 2A0075, 4A0009 to 4A0039 CIMR-T□2A0004 to 2A0081, 4A0002 to 4A0044 CIMR-Z□2A0011 to 2A0114, 4A0005 to 4A0096	A
CIMR-A□2A0110 to 2A0415,4A0058 to 4A0414 5A0041 to 5A0099 CIMR-L□2A0085 to 2A0415, 4A0045 and above CIMR-T□2A0110 to 2A0415, 4A0058 to 4A0362 *<1>* CIMR-Z□2A0143 to 2A0396, 4A0124 to 4A0361	B
CIMR-A□4A0515 to 4A1200 CIMR-Z□4A0414 and 4A0590	C

<1> Drive models CIMR-T□2A0250 to 2A0415, and 4A0208 to 4A0415 are under development.

■ Uninstallation Method A

Insert the blade of a straight-edge screwdriver as shown in ***Figure 32***, and gently slide the option in the direction indicated by the arrow.

NOTICE: *Do not use excessive force when removing the option. Failure to comply can damage the cable and the connector.*

NOTICE: *For Z1000 drives, first remove the screw used to fasten the option into place.*

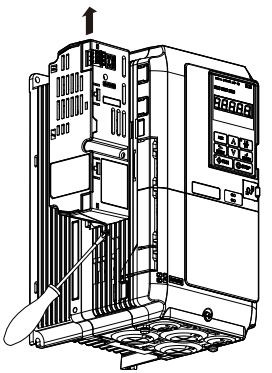


Figure 32 Uninstallation Method A

■ Uninstallation Method B

Remove the three screws used to fasten the option into place during installation as shown in ***Figure 33*** to uninstall the option.

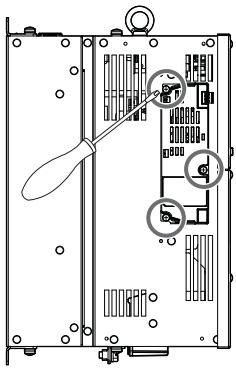
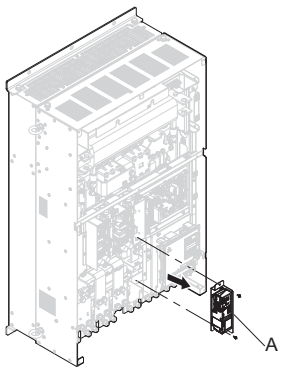


Figure 33 Uninstallation Method B

■ Uninstallation Method C

After removing the drive covers, remove the bracket and option unit as shown in ***Figure 34***.



A – Remove the bracket and option unit

Figure 34 Uninstallation Method C

6 Verifying Operation

After properly wiring and installing the option, use the following procedure to check for normal operation:

1. Make sure the drive main circuit power is on, 24 Vdc external power is supplied to the 24 V connector plug, and the 24 V connector plug is connected to the option.
2. Switch off the main power supply to the drive. The 24 Vdc external power supply should provide power to the drive control unit.
3. Check for the red LED on the option indicating proper option operation.
4. The digital operator on the drive will display “Uv” for about 10 seconds to indicate an undervoltage condition on the drive.
   If “Uv” does not flash on the display screen, check the wiring. If “Uv’ fails to appear on the digital operator after confirming proper wiring, the drive or option may be damaged.

◆ Power Supply and the Control Circuit

Table 6 outlines the various conditions under which the option provides power to the control circuit.

Table 6 Power Supply and Control Circuit

Drive Main Circuit Input Power Supply	Power from 24 V Power Supply Option	Control Circuit Operation in Drive	Drive Operation
ON	ON	Normal operation	Possible
ON	OFF		Possible
OFF	ON		Not possible
OFF	OFF	Stop	Not possible

7 Specifications

Table 7 Option Specifications

Item	Specifications
Input Operating Voltage	24 Vdc ± 20% (19.2 V to 28.8 V)
Input Current	1.9 A
Consumption Power	38 W
Output Ride-Thru time (when power is off)	Over 50 ms
Ambient Temperature	-10 °C to +50 °C (14 °F to 122 °F) <1>
Storage Temperature	-20 °C to +60 °C (-4 °F to 140 °F) allowed for short-term transport of the product
Weight	0.2 kg (0.4 lbs.)
Compliance	UL , CE <2>

<1> The option must be installed in an environment compatible with the drive environmental specifications.
<2> Certification pending. Contact your Yaskawa representative or the nearest Yaskawa sales office for details.

◆ Revision History

Revision dates and manual numbers appear on the bottom of the back cover.

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YASKAWA AC Drive 1000-Series Option

24 V Power Supply
Installation Manual

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